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(58) Field of search

A4K

A4V

(54) **Cosmetic compact with extendable applicator and method of use**

(57) A compact comprises a bottom container (1) and a top housing (2). The container includes a front wall (14) with an undercut section (15) therein, a back wall (7), and an intermediate floor (8) connected at an angle to the back wall. The housing includes an applicator (3) and a key or button (4) for extending the applicator from the housing. The button is engagable with the undercut section of the front wall of the container so that the housing is locked together with the container.

The invention also relates to a method of using the compact. The method comprises the steps of unlocking an undercut lock interconnecting the container and the housing, unlocking a snap lock interconnecting the applicator with the housing, and unlocking a wedge lock holding the container in a closed position.

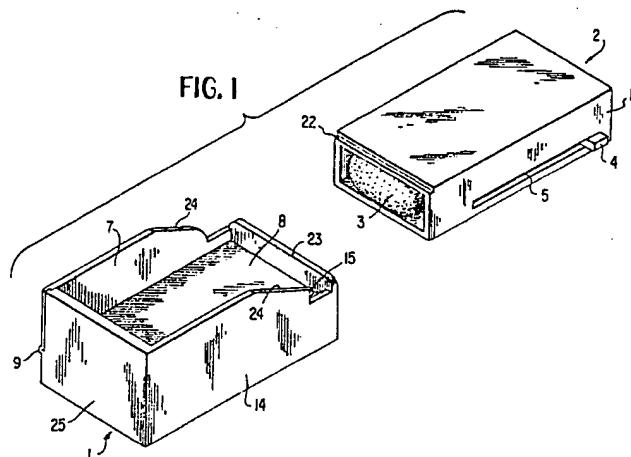


FIG. 1

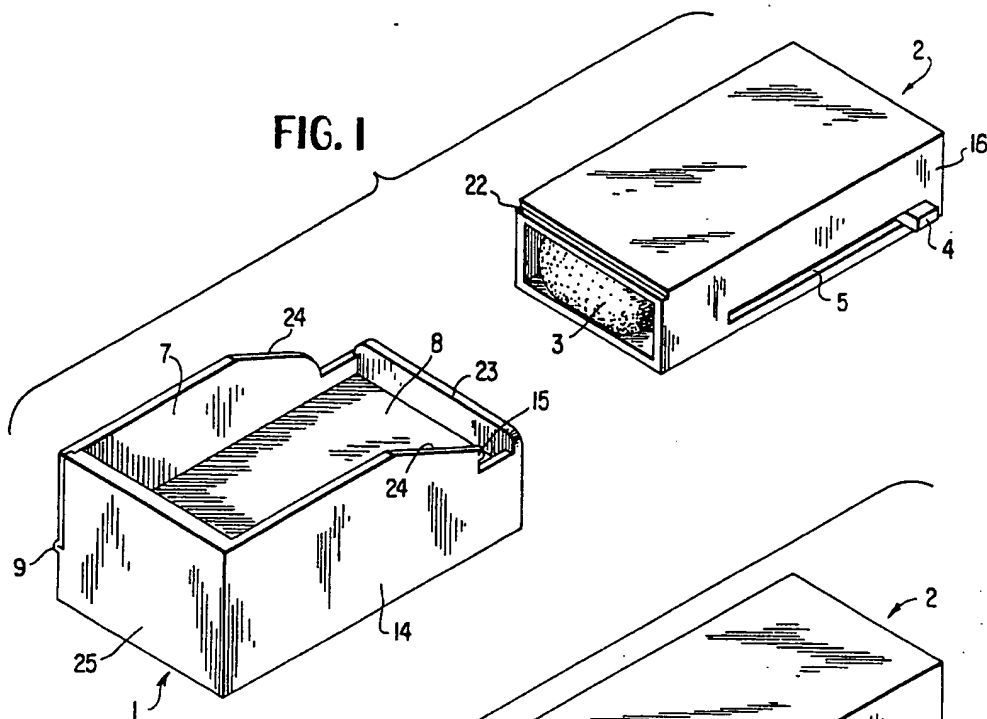


FIG. 2

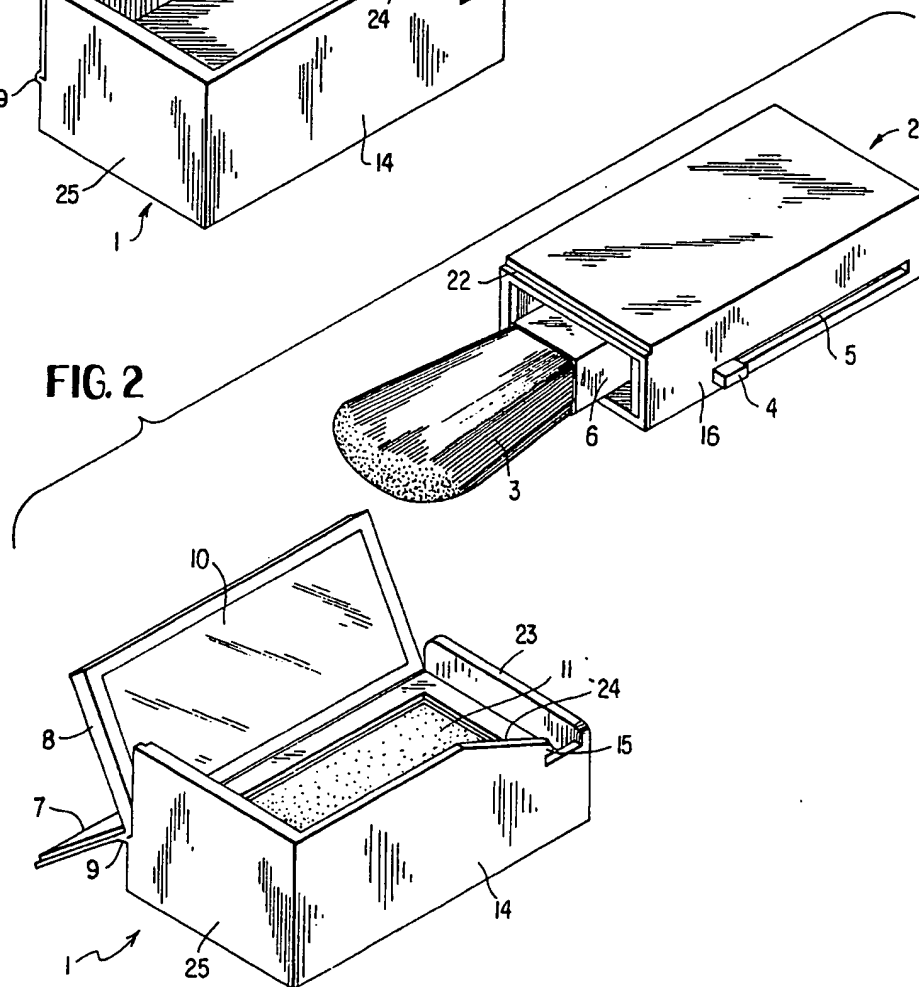


FIG. 3

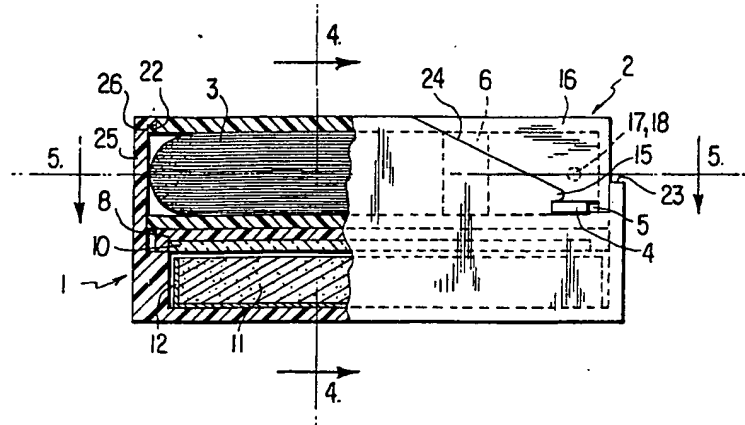


FIG. 4

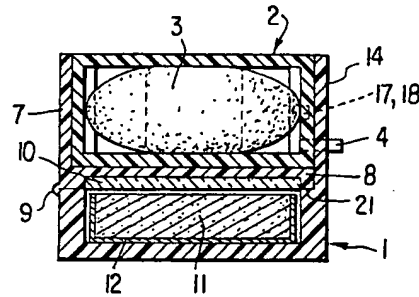


FIG. 5

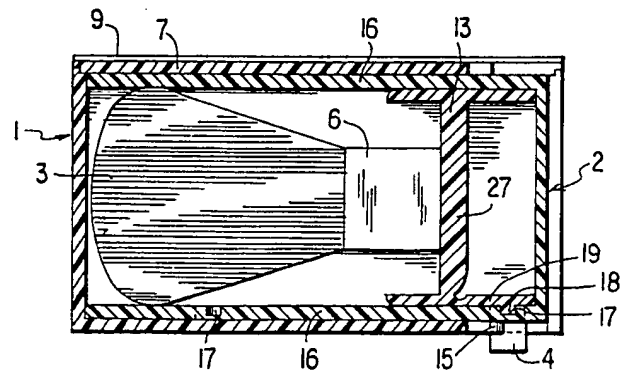
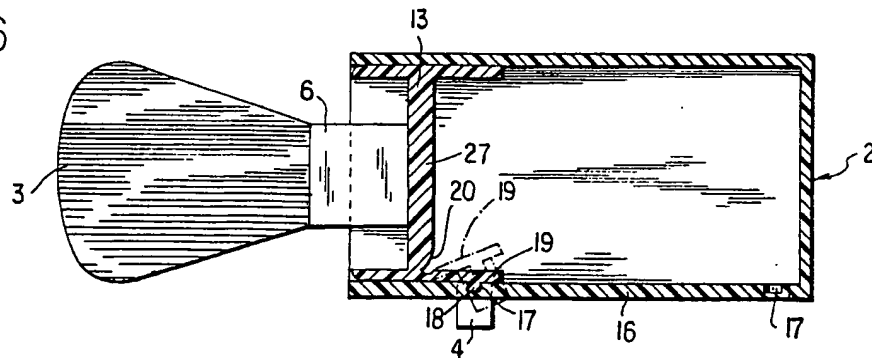


FIG. 6



SPECIFICATION

Cosmetic compact with extendable applicator, and method of use

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This invention relates to a cosmetic compact, in particular a compact with an extendable applicator, and to a method for using such a compact.

Basically, it has been a problem in the prior art to provide a cosmetic compact which is inexpensive, highly functional but small in size. Exemplary of the prior art are U.K. Patent Specification No. 310,139 and U.S. Patent Nos. 2,442,541; 3,442,414 and 3,729,011.

15 The present invention in one aspect provides a compact comprising a container including one wall with an undercut section therein, another wall opposite and substantially parallel to the one wall, and an intermediate floor connected at an angle to the other wall; and a housing including an applicator and a means for extending the applicator from the housing; the said extending means being engagable with the undercut section of the one wall of the container so that the applicator housing is lockable together with the container.

25 The invention in another aspect provides a compact comprising: a container including a low side wall, two opposite and substantially parallel walls having truncated sections sloping toward the low side wall, another higher side wall opposite and substantially parallel to the low side wall, an intermediate floor, and a space provided above the intermediate floor between the four walls; and a housing including an applicator, means for locking the housing together with the container in the space provided above the intermediate floor between the four walls, and side walls having an area exposed above the truncated sections of the two walls of the container so that the housing may be grasped for removal from the space provided above the intermediate floor between the four walls of the container.

35 Essentially, the present invention allows for an inexpensive plastics molded construction of a highly functional compact and, very importantly, gives the appearance of a small-sized compact but also provides a usable full-sized applicator and product volume.

45 A preferred compact according to the invention has a container for a powder or cream product in the bottom thereof, a mirror integral with a lid which is attached to the compact by a living hinge, and a space above the mirror for a brush-type applicator which is extendable from a housing by a button slidable along the side wall thereof.

55 The invention in a further aspect provides a method of using a compact, comprising the steps of: unlocking an undercut lock means for interconnecting a cosmetic container and an applicator housing; unlocking a snap lock means for interconnecting an applicator with the applicator housing; and unlocking a wedge lock means for holding the cosmetic container in a closed position.

65 The method of the invention for using a compact includes three unlocking steps involving an undercut lock, a snap lock, and a wedge lock, all described in

detail hereinafter.

The invention will be further described, by way of example only, with reference to the accompanying drawings, in which:

70 *Figure 1* is an exploded perspective view of one embodiment of a compact according to the invention with the applicator in its housing and with the product container closed;

Figure 2 is an exploded perspective view of the compact with the applicator extended from its housing and with the container opened to expose the product and a mirror ready for use;

Figure 3 is a partially broken away cross-sectional longitudinal view of the compact in its closed condition;

Figure 4 is a cross-sectional side view of the compact in its closed condition;

Figure 5 is a cross-sectional top view of the compact with the applicator in its housing; and

85 *Figure 6* is a cross-sectional top view of the compact with the applicator extended from its housing.

In *Figure 1*, there is shown a compact comprising a bottom container 1 and a top applicator housing 2.

90 Inside the housing 2 there is partially shown an applicator, preferably a brush 3, which is extendable by a key or button 4 that slides in a keyway or track 5 cut out along a side wall 16 of the housing 2. There is also a ledge 22 at the top edge of the opening for the brush 3. The bottom container 1 includes a side wall 25, a back wall 7 and an intermediate floor 8, the latter two being rotatable about a living hinge 9. The bottom container 1 also includes a low side wall 23 and a front wall 14 having an undercut section 15.

100 Both the back wall 7 and front wall 14 are opposite and substantially parallel to each other. Walls 7 and 14 also have truncated sections 24 sloping down to about the height of the low side wall 23.

In *Figure 2*, the brush 3 is shown fully extended

105 from the housing 2. This extension of the brush 3 has been accomplished by sliding the button 4, which is attached indirectly to a ferruled base 6 of the brush 3, in the track 5 along the side wall 16 of the housing 2.

Also in *Figure 2*, the bottom container 1 is shown 110 in its open condition. The back wall 7 and intermediate floor 8, which are integrally connected to each other at about 90°, have been rotated together around the living hinge 9 so as to expose a mirror 10 and a cosmetic or power product 11 for use. The back wall 7 acts as a finger-controlled mechanism for adjusting the angle of the mirror 10.

115 In *Figures 3* and 4, the internal details of the compact may be better seen. A ledge 26 under the back top edge of the side wall 25 engages with the ledge 22 at the top edge of the housing 2. Also, for example, it is seen that the cosmetic product 11 is held in a replaceable pan 12 inside the container 1. Alternatively, the cosmetic product 11 may be provided directly inside the container 1 without the use of a pan 12. However, such an arrangement is not preferred because then the cosmetic product 11 is not as easily replaceable as where the product 11 is provided in the pan 12. In either embodiment, when the container 1 is in its closed position, the 125 mirror 10 seals the product 11 against spillage and 130

contamination of the other elements of the compact. A slight space is provided between the mirror 10 and the top of the pan 12 so that the product 11 does not directly contact the mirror 10.

5 In Figures 5 and 6, the internal details of the top housing 2, from which the brush 3 is extendable, are shown. For example, it is seen that the ferruled base 6 of the brush 3 is stabilized while being held by a cross support member 27 of an I-shaped slide 13 to
10 which button 4 is attached. Other details will be described fully during the description of the operation of the compact.

Included in the construction of the compact are three locking/unlocking features. As may be best seen in Figures 1 and 2, along the top of the front wall 14 at the right hand side of the container 1, the undercut section 15 is provided as a matching cutout for the button 4 which protrudes from the track 5 of the housing 2. Also, as best seen in Figure 3, the
20 ledge 22 of the housing 2 engages under the ledge 26 at the top edge of the side wall 25 of the container 1. This assembly comprises the first locking feature for the container 1 and housing 2 and may be referred to as the undercut lock.

25 As may be best seen in Figure 4, the back wall 7 and the intermediate floor 8, under which the mirror 10 is attached, are rigidly molded to each other at a 90° angle and, thus, prevent the housing 2 for the brush 3 from inadvertently disengaging itself. The
30 back wall 7 and intermediate floor 8 together confine the housing 2 against the front wall 14 of the container 1 by a friction fit. Functionally, this second locking feature, besides securing the housing 2 inside the container 1 of the compact, involves the
35 locking of the intermediate floor 8 with its attached mirror 10 firmly in place when the compact is in a closed condition.

This second locking feature is accomplished when the free edge of the intermediate floor 8, as shown
40 on the right hand side of Figure 4, abuts against an inside ledge 21 of the container 1 and may be referred to as the wedge lock.

As may be best seen in Figures 5 and 6, on the inside of the side wall 16 of the housing 2, at least
45 two notches 17 are cut slightly above the keyway or track 5, shown best in Figures 1 and 2. The notch 17 is also shown in the right hand side views of Figures 3 and 4. As clearly shown in Figures 5 and 6, a nib 18 is formed integrally with and extending from one leg
50 19 of the I-shaped slide 13 for engagement into and disengagement out of either one of the notches 17. A slight undercut 20 is made in the I-shaped slide 13 immediately above the leg 19 so that the leg 19 may easily flex the nib 18 in and out of the notches 17
55 whenever a user of the compact pushes against the key or button 4. This third locking feature may be referred to as a snap lock.

The use of the compact by a person will now be described in detail. Beginning with Figure 3 which
60 shows the compact in its completely closed condition, the user first pushes the button 4 to the right in order to begin the opening of the compact. Once the button 4 has reached the right end of the track 5, the user grasps the housing 2 with the fingers at the area
65 of both side walls 16 exposed above the truncated

sections 24 of the container 1 and lifts upwardly so that the button 4 of the housing 2 passes the undercut section 15 of the container 1 and the ledge 22 of the housing 2 disengages from the ledge 26 of the container 1. Thus, the housing 2 may be
70 removed over the low side wall 23 out of the space above the intermediate floor 8 of the container 1, as shown in Figure 1. Thus, the first unlocking step has been completed.

75 As shown at the right hand side of Figures 5 and 6, the button 4 is then pushed inwardly so that the nib 18 disengages from the notch 17. The undercut section 20 allows the leg 19 to flex backwardly. At this point, the second unlocking step has been
80 completed.

The user propels the brush 3 to the left, as shown in Figure 6, by pushing the button 4 along the track 5 cut in the side walls 16 of the housing 2, as shown in Figure 2, until the button 4 is stopped at the left end
85 of the track 5, thus leaving the brush 3 fully extended. Referring back to Figure 6, the brush 3 will be stabilized in its movement because its ferruled base 6 is held by the cross support member 27 of the I-shaped slide 13. Also, the brush 3 will be locked in
90 its fully extended position when the user releases the button 4 in order to allow the leg 19 to flex the nib 18 back into the notch 17 at the left.

Referring now to Figure 1, the user pushes against the inside of the back wall 7 so that the intermediate
95 floor 8 disengages from inside the ledge 21, shown only in Figure 4. As shown in Figure 2, both the back wall 7 and the intermediate floor 8, which are preferably integrally molded together, are pivoted rearwardly about 90° or more around the hinge 9 to the open position. Thus, the third unlocking step has
100 been completed.

The mirror 10, which is attached to the underside of the intermediate floor 8, and the cosmetic product 11 are now both fully exposed for use. The person
105 holding the housing 2 dabs the end of the brush 3 into the product 11 and applies the cosmetic wherever desired. The compact may be closed and relocked by following in reverse the three steps involving the snap lock, the wedge lock, and the undercut lock.

110 CLAIMS

1. A compact comprising: a container including one wall with an undercut section therein, another wall opposite and substantially parallel to the one wall, and an intermediate floor connected at an angle to the other wall; and a housing including an applicator and a means for extending the applicator from the housing; the said extending means being
115 engagable with the undercut section of the one wall of the container so that the applicator housing is lockable together with the container.

2. A compact as claimed in claim 1, further comprising a hinge, formed in the container, for
125 rotating the said other wall and the intermediate floor thereabout.

3. A compact as claimed in claim 1 or 2, further comprising a mirror integrally attached to the intermediate floor of the container.

130 4. A compact as claimed in any of claims 1 to 3,

comprising a first ledge, formed in the housing, and a second ledge, formed in the container, for aiding the locking down of the applicator housing in a space provided above the intermediate floor of the container.

5 A compact as claimed in any of claims 1 to 4, comprising a pan for holding a cosmetic product in the container.

6 A compact as claimed in any of claims 1 to 5, further comprising a keyway or track, arranged in one wall of the applicator housing, for allowing the extending means to be propelled therealong.

7 A compact as claimed in any of claims 1 to 6, further comprising a slide, arranged inside the applicator housing, for interconnecting the applicator with the extending means.

8 A compact as claimed in claim 7, wherein a notch is arranged inside the applicator housing, for engaging with the said slide in a locking manner.

20 9 A compact as claimed in claim 8, further comprising a nib, arranged on the said slide, for engaging with the said notch in a locking manner.

10 A compact as claimed in claim 9, wherein the said slide is I-shaped, and includes a leg for carrying the said nib, and also includes a cross support for stabilizing the applicator.

11 A compact as claimed in claim 10, wherein the said cross support includes an undercut section for allowing the said leg to flex backwardly whenever the extending means is pushed upwardly.

12 A compact as claimed in any of claims 1 to 11, wherein a truncated section is cut into both the said one wall and the said other wall, for allowing the applicator housing to be grasped, and wherein a third ledge is formed in the container for locking the intermediate floor down in a wedge-like manner.

13 A compact comprising: a container including a low side wall, two opposite and substantially parallel walls having truncated sections sloping toward the low side wall, another higher side wall opposite and substantially parallel to the low side wall, an intermediate floor, and a space provided above the intermediate floor between the four walls; and a housing including an applicator, means for locking the housing together with the container in the space provided above the intermediate floor between the four walls, and side walls having an area exposed above the truncated sections of the two walls of the container so that the housing may be grasped for removal from the space provided above the intermediate floor between the four walls of the container.

14 A compact as claimed in claim 13, wherein the said higher side wall of the container has a ledge under its top edge, and wherein one of the said two walls having truncated sections also has an undercut section.

15 A compact as claimed in claim 14, wherein the said locking means on the housing includes means for extending the applicator, the said extending means being engageable with the undercut section of the one of the said two walls having truncated sections, and a ledge, arranged along one edge of an opening for the applicator, for engaging with the ledge under the top edge of the higher side

wall of the container.

16 A method of using a compact, comprising the steps of: unlocking an undercut lock means for interconnecting a cosmetic container and an applicator housing; unlocking a snap lock means for interconnecting an applicator with the applicator housing; and unlocking a wedge lock means for holding the cosmetic container in a closed position.

17 A method as claimed in claim 16, wherein the said step of unlocking the snap lock means includes the substep of extending the applicator from the applicator housing.

18 A method as claimed in claim 16 or 17, wherein the said step of unlocking the wedge lock means includes the substep of rotating at least a floor carrying a mirror around a hinge formed in the container.

19 A method as claimed in any of claims 16 or 17, wherein the said step of unlocking the wedge lock means includes the substep of exposing a mirror and a cosmetic product in the container for use.

20 A method as claimed in claim 18, wherein the said substep of rotating at least the floor includes the substep of rotating simultaneously a wall, connected at an angle to the floor, around the hinge.

21 A compact substantially as herein described with reference to, and as shown in, the accompanying drawings.

22 A method of using a compact, substantially as herein described with reference to the accompanying drawings.